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EXAMINER

MOORE, KARLA A

ART UNIT PAPER NUMBER

1763

10

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/913,986

Applicant(s)

DRESS ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 30-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-32, 35-40, 42-45, 47-54 and 56 is/are rejected.
- 7) ☒ Claim(s) 33, 34, 41, 46, 55 and 57 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 30, 37-40, 42-43, 45, 51 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,980,706 to Bleck et al.
3. Bleck et al. disclose an apparatus for coating substrates, comprising: a substrate holder (Figure 3, 401-multiple parts) for holding thereon a substrate (W) in such a way that a surface of said substrate that is to be coated is exposed and is directed downwardly (also see Figure 4); a means for rotating (column 5, rows 65-67) said substrate holder; a cover (417, processing bowl) that is securable to said substrate holder, wherein said cover, together with said substrate holder, are adapted to form a sealed chamber (column 6, rows 27-32).
4. With respect to claims 37 and 38, a centering mechanism (416, column 6, rows 28-29) is provided for a mutual centering of said cover and said substrate holder and said centering mechanism is in the form of at least one slanted centering portion on at least one of said substrate holder and said cover.
5. With respect to claim 39, said cover (417) is symmetrical relative to a central axis C thereof (see broken outline of cover in Figure 4).
6. With respect to claims 40 and 42, a notch (Figure 4, not numbered, slant surface horizontally even with wafer) is provided in an outer region of a portion of said cover that defines said chamber and said notch is inclined in a side thereof that faces said substrate holder.

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7. With respect to claim 43, said cover is symmetrical relative to a central plane B thereof (see broken outline of cover in Figure 4).
8. With respect to claim 45, a receiver (see cabinet like structure in Figure 1) for supporting said cover.
9. With respect to claim 51, Bleck et al. further disclose a method for coating substrates to be performed on the apparatus above, including the steps of: holding a substrate on a substrate holder in such a way that a surface of the substrate that is to be coated is exposed and is directed downwardly; securing to said substrate holder a cover that together with said substrate holder forms a sealed chamber for receiving the substrate; and rotating the substrate together with said substrate holder.
10. With respect to claim 54, Bleck et al. teach that after the step of rotating said substrate, the securement of said cover is released independent of the holding of the substrate.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 31, 47-50, 52-53 and 56 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bleck et al. as applied to claims 30, 37-40, 42-43, 45, 51 and 54 above, and further in view of U.S. Patent No. 6,033,135 to An et al.
12. Bleck et al. disclose the invention substantially as claimed and as described above. The Bleck et al. disclosure includes the step of centering said cover and said substrate holder relative to one another prior to holding or securement (column 6, rows 5-7) as recited in claim 53.
13. However, Bleck et al. fail to disclose a holding mechanism on said substrate holder for holding the substrate by means of vacuum.

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14. An et al. teach the use of vacuum holding for the purpose of adsorbing and fixing a substrate to a spin chuck (column 1, rows 35-37).

15. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided vacuum holding means in Bleck et al. in order to adsorb and fix a substrate to a spin chuck as taught by An et al.

16. With respect to claims 47-50 and 56, Bleck et al. further fail to teach a rinsing and/or drying nozzle (93) that is part of a receiver (40) and provided for said cover so as to be directed towards at least one of said cover and said notch.

17. An et al. teach the use of a rinsing and/or drying nozzle supplied with rinsing fluid for a cover for the purpose of blowing out solution remaining in a cover (column 7, row 66-column 8, row 11).

18. It would have obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a rinsing and/or drying device for the cover in An et al. in order to blow out solution remaining in the cover as taught by An et al.

19. With respect to claim 50, which is drawn to the composition of the rinsing fluid, the courts have ruled that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim. *Ex Parte Thibault*, 154 USPQ 666, 667 (Bd. App. 1969).

20. Claims 32, 35 and 52-53 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 5,980,706 to Bleck et al. as applied to claims 30, 37-40, 42-43, 45, 51 and 54 above, and further in view of U.S. Patent No. 6,156,125 to Harada et al.

21. Bleck et al. disclose the invention substantially as claimed and as described above. The Bleck et al. disclosure includes the step of centering said cover and said substrate holder relative to one another prior to holding or securement (column 6, rows 5-7) as recited in claim 53.

22. However, Bleck et al. fail to teach a holding mechanism provided on said substrate holder for holding said cover by means of vacuum.

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23. Harada et al. disclose a holding mechanism (Figure 5, 75; column 5, rows 40-50) provided on said substrate holder (45, 60) for holding said cover means (31) by vacuum and at least one sealing means (80,81) for the purpose of firmly putting together the cover and the holder, which negates the need for the clamp and leads to a downsizing of the apparatus (column 6, rows 49-56).

24. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a vacuum sealing holding mechanism and at least one sealing means in An et al. in order to firmly put together the holder and cover as taught by Harada et al.

25. Claim 36 is rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. Bleck et al. as applied to claims 30-31, 37-40, 42-43, 45, 51 and 54 above, and further in view of U.S. Patent No. 5,188,50 to Tomita et al.

26. Bleck et al. disclose the invention substantially as claimed and as described above.

27. However, Bleck et al. fail to teach said substrate holder provided with a recess for an at least partial accommodation of the substrate.

28. Tomita et al. disclose a substrate holder provided with a recess for the purpose receiving wafers (abstract).

29. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided recess in Bleck et al. in order to receive a wafer as taught by Tomita et al.

30. Claim 44 is rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 5,980,706 to Bleck et al. as applied to claims 30-31, 37-40, 42-43, 45, 51 and 54 above, and further in view of U.S. Patent No. 6,027,602 to Hung et al.

31. Bleck et al. disclose the invention substantially as claimed and as described above.

32. However, Bleck et al. fail to teach a device for "turning" said cover.

33. Examiner is using a definition provided by Webster's Dictionary, where "turn" is defined as to move around an axis or center.

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34. Hung et al. disclose a substrate processing apparatus wherein the chamber (including a cover, 59) is rotated/turned with the substrate by a device (53, shaft and motor, not numbered; column 3, rows 33-39) for the purpose of creating a stable environment where processing parameters are more easily controlled (abstract).

35. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a device for turning said cover in Bleck et al. in order to create a stable environment as taught by Hung et al.

#### ***Allowable Subject Matter***

36. Claims 33-34, 41, 46, 55 and 57 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

37. The prior art fails to teach or fairly suggest a substrate coating apparatus as claimed in claims 33 and 34 where holding mechanisms for a substrate and a cover are connected to a common vacuum source **or** are adapted to be controlled independently. None of the prior art teaches both in a single apparatus.

38. Bleck et al., the closest prior, art further fail to teach the notch provided in an outer region of a portion of said cover that defines said chamber as tapering outwardly or a device for raising or lowering said receiver.

39. Finally, Bleck et al. fail to teach the a method which includes: during said step of rotating said substrate a side of said cover that faces away from the substrate is rinsed and/or dried **or** including the step of turning said cover between successive ones of said rotating steps.

#### ***Response to Arguments***

3. In general, Applicant's arguments with respect to claims 30-57 have been considered but are moot in view of the new ground(s) of rejection. However, with respect to Applicant's argument that the

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apparatus of An et al. is not a coating device, Examiner disagrees. Supplying a solution to the wafers surface, qualifies as "coating" as defined by Webster Merriam's Dictionary, which defines coating as "covering or spreading with a finishing, protecting, or enclosing layer". This definition is relied upon in the present action, as well.

### **Conclusion**

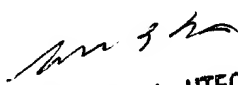
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 703.305.3142. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703.308.1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9310 for regular communications and 703.872.9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0661.

km  
February 10, 2003

  
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